AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A biosensor comprising a substrate coated with a hydrophobic polymer having a functional group capable of immobilizing a physiologically active substance, the polymer being on a surface of the substrate to be contacted with the physiologically active substance .

2. (original): The biosensor according to claim 1, which comprises a metal surface or metal film coated with a hydrophobic polymer.

3. (original): The biosensor according claim 2, wherein the metal surface or metal film comprises a free-electron metal selected from a group consisting of gold, silver, copper, platinum and aluminum.

4. (original): The biosensor according to claim 1, wherein the coating thickness of the hydrophobic polymer is between 1 angstrom and 5,000 angstroms.

5. (original): The biosensor according to claim 1, wherein the coating thickness of the hydrophobic polymer is between 10 angstroms and 2,000 angstroms.

6. (currently amended): A biosensor comprising a substrate coated with a film whose swelling degree in pure water at 25°C is between 1 and 5 with respect to the film thickness in a dry state, the film being on a surface of the substrate to be contacted with a physiologically active substance.

7. (original): The biosensor according to claim 6, wherein the film whose swelling degree in pure water at 25°C is between 1 and 5 with respect to the film thickness in a dry state is an organic substance.

8. (original): The biosensor according to claim 6, wherein the film whose swelling degree in pure water at 25°C is between 1 and 5 with respect to the film thickness in a dry state comprises a high polymer comprising 50% by weight or more of monomers having a solubility in water of 20% by weight or less.

9. (original): The biosensor according to claim 6, wherein the film whose swelling degree in pure water at 25°C is between 1 and 5 with respect to the film thickness in a dry state comprises a hardening agent.

10. (original): The biosensor according to claim 6, which comprises a metal surface or metal film coated with a film whose swelling degree in pure water at 25°C is between 1 and 5 with respect to the film thickness in a dry state.

11. (currently amended): The biosensor according to claim 6, wherein the metal surface or metal film comprises a free-electron metal selected from a group consisting of gold, silver, copper, platinum and aluminum.

12. (original): The biosensor according to claim 1, which has a functional group capable of immobilizing a physiologically active substance on the outermost surface of the substrate.

13. (original): The biosensor according to claim 12, wherein the functional group capable of immobilizing a physiologically active substance is -OH, -SH, -COOH, $-NR^1R^2$ (wherein each of R^1 and R^2 independently represents a hydrogen atom or lower alkyl group), -CHO, $-R^3NR^1R^2$ (wherein each of R^1, R^2 and R^3 independently represents a hydrogen atom or lower alkyl group), -NCO, -NCS, an epoxy group, or a vinyl group.

14. (original): The biosensor according to claim 12, which comprises a substrate coated with a hydrophobic polymer, and wherein a functional group capable of immobilizing a physiologically active substance by covalent bond is introduced in a hydrophobic polymer by chemical treatment of the surface of said substrate.

15. (currently amended): The biosensor according to claim 1, which comprises a linker for immobilizing a physiologically active substance to the hydrophobic polymer on a surface of the biosensor.

16. (original): The biosensor according to claim 15, wherein the linker is a linker for immobilizing a physiologically active substance on a surface of the biosensor by chemical bonding.

17. (original): The biosensor according to claim 15, wherein the linker is a linker for immobilizing a physiologically active substance on a surface of the biosensor by covalent bonding.

18. (original): The biosensor according to claim 15, wherein the linker is a compound represented by the formula (1)

X-L-Y . . . formula (1)

wherein X represents a group capable of reacting with a functional group of a hydrophobic polymer, L represents a bivalent linking group, and Y represents a group capable of immobilizing a physiologically active substance.

19. (original): The biosensor according to claim 18, wherein the total number of atoms of L of the formula (1) is 2 to 1000.

20. (original): The biosensor according to claim 1, which is used in non-electrochemical detection.

21. (original): The biosensor according to claim 1, which is used in surface plasmon resonance analysis.

22. (original): A method for producing the biosensor according to claim 1, which comprises a step of coating a substrate with a hydrophobic polymer.

23. (original): The method for producing the biosensor according to claim 22, which further comprises a step of performing chemical treatment of a surface of the substrate.

24. (original): The method for producing the biosensor according to claim 22, which further comprises a step of reacting the substrate with a hydrophobic polymer with a linker.

25. (currently amended): The biosensor according to claim 1, wherein a physiologically active substance is bound to the hydrophobic polymer on a surface of the biosensor by covalent bonding.

26. (currently amended): A method for immobilizing a physiologically active substance to the biosensor according to claim 1, which comprises a step of making said biosensor come into contact with said physiologically active substance, so that said physiologically active substance is bound to the hydrophobic polymer on a surface of said biosensor by covalent bonding.

27. (original): A method for detecting or measuring a substance interacting with a physiologically active substance, which comprises a step of making the biosensor according to

claim 1, to the surface of which said physiologically active substance is bound by covalent bonding, come into contact with a test substance.

28. (original): The method according to claim 27, wherein a substance interacting with the physiologically active substance is detected or measured by a non-electrochemical method.

29. (original): The method according to claim 27, wherein a substance interacting with the physiologically active substance is detected or measured by surface plasmon resonance analysis.

30. (currently amended): A method for detecting or measuring a substance interacting with a physiologically active substance which is bound to the surface of a biosensor comprising a substrate coated with a hydrophobic polymer having a functional group capable of immobilizing the physiologically active substance, wherein the above detection or measurement is carried out in the presence of a surfactant.

31. (original): The method according to claim 30 wherein the surfactant is a nonionic surfactant.

32. (original): The method according to claim 30 wherein a solution containing at least a test substance and a surfactant is allowed to come into contact with a biosensor comprising a substrate coated with hydrophobic polymer, on the surface of which a physiologically active substance is bound by covalent bonding.

33. (original): The method according to claim 32 wherein the concentration of a surfactant contained in the solution containing the test substance and the surfactant is between 0.0001% by weight and 1% by weight.

34. (original): A measurement chip used for a surface plasmon resonance measurement device comprising: a dielectric block; a metal film formed on a face of the dielectric block; a

light source for generating a light beam; an optical system for allowing said light beam to enter said dielectric block such that total reflection conditions can be obtained at the interface between said dielectric block and said metal film and that components at various incident angles can be contained; and a light-detecting means for detecting the state of surface plasmon resonance by measuring the intensity of the light beam totally reflected at said interface,

said measurement chip being comprised of said dielectric block and said metal film, wherein said dielectric block is formed as one block comprising the entirety of the entrance face and exit face of said light beam and a face on which said metal film is formed, said metal film is integrated with the dielectric block, and said metal film is coated with a hydrophobic polymer.

35. (original): The measurement chip according to claim 34, which has a functional group capable of immobilizing a physiologically active substance on the surface of the metal film coated with a hydrophobic polymer.

36. (original): The measurement chip according to claim 35, wherein the functional group capable of immobilizing a physiologically active substance is -OH, -SH, -COOH, $-NR^1R^2$ (wherein each of R^1 and R^2 independently represents a hydrogen atom or lower alkyl group), -CHO, $-NR^3NR^1R^2$ (wherein each of R^1, R^2 and R^3 independently represents a hydrogen atom or lower alkyl group), -NCO, -NCS, an epoxy group, or a vinyl group.

37. (original): The measurement chip according to claim 34, wherein the physiologically active substance is bound to the surface by covalent bonding.

38. (original): A method for immobilizing a physiologically active substance to a measurement chip, which comprises a step of allowing the measurement chip according to claim 34 to come into contact with the physiologically active substance, so as to bind the physiologically active substance to the surface of the measurement chip by covalent bonding.

39. (original): A method for detecting or measuring a substance interacting with a physiologically active substance, which comprises a step of allowing the measurement chip according to claim 34, on the surface of which the physiologically active substance is bound by covalent bonding, to come into contact with a test substance.

40. (original): A surface plasmon resonance measurement device having the measurement chip according to claim 34.